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|  | **MYP Assessment Task** | | **Teacher(s)**  Maria Fernanda Valencia | |
| **Subject** | **Design** UNIT I | **Grade** | 9 |
| **Student** |  | **Date** | August 2018 |

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| **Assessment Task**   |  | | --- | | **Different basic systems can be innovatively brought together**  **to form a complex one to achieve a desired function**  **Criteria A**   1. Explain and justify the necessity of technology knowledge for the solution of a computer system.Srduino technology. 2. Select relevant information about electronic systems and Computer systems. Use Bibliography. 3. Analyze existing products where Arduino technology has been used considering the following aspects: Functionality and innovation. 4. Develops a Design Brief. Present the information in a e-portfolio.   **Criteria B**   1. Define specifications to implement the commands for a traffic light. 2. Create the sketching of the experimentations by using the program (Flow chart). 3. Evidence the best experimentation with the Arduino technology. Use planning and programming to justify the best option. 4. Develop accurate planning of the commands for the traffic light by using Arduino software.   **Criteria C**   1. Develop a method to create the traffic light including materials, sources and time. 2. Demonstrating technical skills. Experimenting with the design kit. 3. Write and justify changes developed to the product/project. 4. Present the final product as a whole.   **Criteria D**   1. Use a testing method to evaluate the success of the product/project. 2. explain the success of the solution against the design specification | |

**Criterion and Assessment Rubrics**

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| **Criterion A: Inquiry and Analyzing**   1. explain and justify the need for a solution to a problem 2. construct a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem 3. analyse a group of similar products that inspire a solution to the problem 4. develop a design brief, which presents the analysis of relevant research. | |
| **Achievement Levels** | **Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below. |
| 1-2 | The student:   * **states** the need for the implementation of a new technology (Arduino). * **states some of** the main findings of relevant research. |
| 3-4 | The student:   * **outlines** the need for the implementation of a new technology (Arduino). * **states** the research needed to **develop** a solution to the problem, **with some guidance** * **outlines one existing** product that inspires a solution to the problem * **develops** a **basic** design brief, which **outlines some of the findings** of relevant research. |
| 5-6 | The student:   * **explains** the need for the implementation of a new technology (Arduino). * **constructs** a research plan, which **states** and **prioritizes** the primary and secondary research needed to **develop** a solution to the problem, **with some guidance** * **describes** a group of similar products that inspire a solution to the problem * **develops** a design brief, which **outlines** the **findings** of relevant research. |
| 7-8 | The student:   * **explains** and **justifies** the need for the implementation of a new technology (Arduino). * **constructs** a research plan, which **states** and **prioritizes** the primary and secondary research needed to **develop** a solution to the problem **independently** * **analyses** a group of similar products that inspire a solution to the problem   **develops** a design brief, which **presents** the **analy**   |  | | --- | | **Criterion B: Developing ideas**   1. develop a design specification which outlines the success criteria for t the implementation of a new technology (Arduino). 2. present a range of feasible design ideas 3. present the chosen design and outline the reasons for its selection 4. develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation. |  * **sis** of relevant research. |
| **Achievement Levels** | | **Descriptor** |
| 0 | | The student **does not** reach a standard described by any of the descriptors below. |
| 1-2 | | The student:   * **lists** a few basic success criteria for the implementation of a new technology (Arduino). * **presents** one design idea, which can be interpreted by others * **creates** incomplete planning drawings/diagrams. |
| 3-4 | | The student:   * **constructs** a list of the success criteria for the implementation of a new technology (Arduino). * **presents a few** feasible design ideas, using an appropriate medium(s) **or explains** key features, which can be interpreted by others * **outlines** the **main** reasons for choosing the design with reference to the design specification * **creates** planning drawings/diagrams or **lists** requirements for the chosen solution. |
| 5-6 | | The student:   * **develops** design specifications, which **identify** the success criteria for the implementation of a new technology (Arduino). * **presents a range of** feasible design ideas, using an appropriate medium(s) **and explains** key features, which can be interpreted by others * **presents** the chosen design and **outlines** the **main** reasons for its selection with reference to the design specification * **develops** accurate planning drawings/diagrams and **lists** requirements for the creation of the chosen solution. |
| 7-8 | | The student:   * **develops** a design specification which **outlines** the success criteria for the implementation of a new technology (Arduino), based on the data collected * **presents** a range of feasible design ideas, using an appropriate medium(s) **and annotation**, which can be correctly interpreted by others * **presents** the chosen design and **outlines** the reasons for its selection with reference to the design specification * **develops** accurate planning drawings/diagrams and **outlines** requirements for the creation of the chosen solution. |

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| **Criterion C: Creating the solution**   1. construct a logical plan, which outlines the efficient use of time and resources, sufficient for the implementation of a new technology (Arduino). 2. demonstrate excellent technical skills when making the solution 3. follow the plan to create the solution, which functions as intended 4. explain changes made to the chosen design and the plan when making the recycled product 5. present the solution as a whole | |
| **Achievement levels** | **Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below. |
| 1 – 2 | The student:   * **demonstrates minimal** technical skills when the implementation of a new technology (Arduino). * **creates** the solution, which functions **poorly** and is presented **in an incomplete form**. |
| 3 - 4 | The student:   * **outlines** each step in a plan that contains some details, resulting in peers having difficulty following the plan to the implementation of a new technology (Arduino). * **demonstrates satisfactory** technical skills when making the solution * **creates** the solution, which **partially** functions and is **adequately**  presented * **outlines** changes made to the chosen design **or** plan when implementing the new technology (Arduino). |
| 5 – 6 | The student:   * **constructs** a plan, which **considers** time and resources, sufficient for peers to be able to follow to the implementation of a new technology (Arduino). * **demonstrates competent** technical skills when making the solution * **creates** the solution, which functions **as intended** and is presented **appropriately** * **outlines** changes made to the chosen design **and** plan when, experimenting with the new technology (Arduino). |
| 7 - 8 | The student:   * **constructs** a **logical** plan, which **outlines** the efficient use of time and resources, sufficient for peers to be able to follow to create the solution * **demonstrates excellent** technical skills when making the solution * follows the plan to **create** the solution, which functions **as intended** and  is presented **appropriately** * **explains** changes made to the chosen design and plan when making the solution. |

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| **Criterion D: Evaluating**   1. describe detailed and relevant testing methods, which generate accurate data, to measure the implementation of a new technology (Arduino). 2. explain the success of the solution against the design specification 3. describe how the solution could be improved | |
| **Achievement Levels** | **Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below. |
| 1-2 | The student:   * **designs a** testing **method**, which is used to measure the implementation of a new technology (Arduino). * **states** the success of the solution. |
| 3-4 | The student:   * **designs a relevant** testing **method**, which generates data, to measure the implementation of a new technology (Arduino). * **outlines** the success of the solution against the design specification based on relevant product testing * **lists** the ways in which the solution could be improved |
| 5-6 | The student:   * **describes relevant** testing **methods**, which generate data, to measure the implementation of a new technology (Arduino). * **describes** the success of the solution against the design specification based on **relevant** product testing * **outlines** how the solution could be improved |
| 7-8 | The student:   * **describes detailed and relevant** testing **methods**, which generate  **accurate** data, to measure the implementation of a new technology (Arduino). * **explains** the success of the solution against the design specification  based on **authentic** product testing * **describes** how the solution could be improved |

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| **Student Reflection:** |
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| **Teacher Feedback:** |
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